

APPENDIX

3. A Gram-positive bacterium according to claim 1 [or 2] wherein the bacterium is a thermophile.

4. A Gram-positive bacterium according to claim 2 [or 3] wherein the *Bacillus* is selected from *B. stearothermophilus*; *B. calvodox*; *B. caldotenax*, *B. thermoglucosidasius*, *B. coagulans*, *B. licheniformis*, *B. thermodenitrificans*, and *B. caldolyticus*.

5. A Gram-positive bacterium according to claim 1[, 2, 3 or 4] wherein the gene encoding lactate dehydrogenase expression has been inactivated.

7. A Gram-positive bacterium according to [any preceding claim] claim 1 in which the heterologous gene is from *Zymomonas sp* or from *Saccharomyces cerevisiae*.

10. A Gram-positive bacterium according to [the preceding claim] claim 9 wherein the heterologous gene is incorporated into the chromosome of the bacterium.

11. A Gram-positive bacterium according to [any one of claims 1 to 9] claim 1 in which the bacterium has been transformed with a plasmid comprising the heterologous gene.

13. A Gram-positive bacteria according to [any one of claims 1 to 9,] claim 1 wherein the heterologous gene is operatively linked to the lactate

dehydrogenase promoter from *Bacillus* strain LN (NCIMB accession number 41038).

17. A method of producing ethanol comprising culturing a bacterium or strain according to [any one of claims 1 to 13] claim 1 under suitable conditions.